

INFORMATION ON NEW BUILD WASTES SUBMITTED TO CoRWM BY STAKEHOLDERS

This paper is a compilation of responses from stakeholders to a CoRWM request to submit to it any information about new build wastes that they wished to draw to the Committee's attention.

1. Information from Parents Concerned about Hinkley (PCAH)

PCAH Response to CoRWM E- Bulletin 37 November 2009

We wish to draw your attention to current problems with waste management at Hinkley Point A station in Somerset.

1. Magnox South's contract does not require them to put public health safety first.
2. As a result of an unexpected build up of pressure inside the defuelled Hinkley A reactors, Magnox South installed vents into the reactor roofs. This is in breach of the 80-year reactor decay period.
3. Subsequently, radioactive gaseous discharges from these reactors have caused an epidemic in nearby coastal communities of heart attacks, brain tumours, strokes, skin cancers, kidney problems, sudden deaths. All of these illnesses have been identified among nuclear decommissioning workers:

International Journal of Epidemiology 4 March 2008.

Westlakes Scientific Consulting: Professor Steve Jones

This large study of 65,000 men employed at Sellafield reprocessing plant between 1946 and 2002 found the risks of death from heart attacks and strokes increased with exposure to higher levels of radiation.

American Journal of Industrial Medicine, December 2007

Authors: Dr David B Richardson, University of North Carolina

This study is of 19,000 employees of the Savannah River Site, South Carolina which has processed nuclear materials since the 1950s. It found excess leukaemia and pleural cancers among men and elevated rates of kidney and skin cancers in women, highlighting the range of potential occupational health effects among nuclear workers, especially diseases that typically take years to become apparent.

4. The two operational Hinkley B AGR reactors will close soon; what steps will CoRWM take to prevent similar or even worse public health outcomes from their decommissioning and waste management?
5. Magnox South have another problem with Intermediate Level Waste on the Hinkley site. Again, as they do not have to take account of public health damage, they currently plan to use Cement Encapsulation to deal with waste from the existing ILW storage vaults. Cement Encapsulation will discharge 144 million cubic metres of radioactive gases into the atmosphere. The Polymer Encapsulation option would produce no discharges into the atmosphere but would cost more. Will CoRWM insist on the use of Polymer Encapsulation? As the act of opening up the existing vaults will immediately result in radioactive discharges, why cannot the vaults be left closed for at least 100 years?
6. New nuclear build would require spent fuel to be stored on site for 160 years. This is not possible at Hinkley due to the limestone geology of the site. In view of Hinkley's

disastrous record of public health damage, there should be no new build, but if this should be allowed, the spent fuel will have to go off-site and there is not likely to be anywhere for it to go.

2. Information from Phil Davies

Phil Davies drew CoRWM's attention to papers presented at a workshop organised by the Swedish Council for Nuclear Waste on "Mechanisms of Copper Corrosion in Aqueous Environments", held in Stockholm on 16 November 2009. The papers are listed below and area available at www.karnavfallsradet.se/Bazment/191.aspx.

David J Duquette. *Questions and Workshop Goals*.

Ron M Latanision. *Introductory Comments*.

Gunnar Hultqvist. *Questions, hypotheses and facts related to copper corrosion in water*.

Christina Lilja. *Copper corrosion processes in the Cu-O-H system and their role in long-term safety assessments*.

Peter Szakalos. *Thermodynamics and kinetics of copper corrosion in oxygen free water*.

Pavel Korzhavyi. *Thermodynamic properties of Cu-O-H phases from first principles calculations*.

Ghaik Khuan Chuah. *Corrosion Properties of Copper in Pure Water*.

Digby D Macdonald. *Corrosion of Copper in Water*.

Dave Shoesmith. *Some Aspects of Copper Corrosion in Aqueous Environments*.

The paper that led to the workshop is:

Hultqvist, G et al, 2009. *Water Corrodes Copper*. Catal. Lett. (2009) 132: 311-316.

3. Letter from Varrie Blowers, Blackwell Against New Nuclear Group, and Others

This letter comments on the workplan of CoRWM's Task Group 5 and is reproduced in Annex A.

ANNEX A

Letter from Varrie Blowers et al

Professor Robert Pickard
Chair,
CoRWM,
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3 Whitehall Place,
London SW1A 2AW

7th January 2010

BY EMAIL

Task Group 5 – New Build Wastes Workplan (November 2009 – March 2010)

Dear Professor Pickard,

We write with regard to the above named workplan.¹ We understand that CoRWM has asked for views on the plan, and issues it should cover, by 7th January 2010. We note the scope of the work as covering:

'conditioning, packaging, interim storage and geological disposal of ILW and spent fuels from new build power stations, and related R&D. CoRWM's interest in new build higher activity wastes (HAW) has two aspects. One aspect is the long-term management of the new build HAW per se. The other aspect is the interaction between the long-term management of new build HAW and that of existing and committed HAW. CoRWM is neither for nor against new nuclear power stations.'

In addition we note that the plan has two “deliverables” marked down. The first of these is for CoRWM to respond to the DECC consultation on the draft National Policy Statement for new build nuclear power stations and the consultation on funding arrangements for waste management and decommissioning at new build stations. Further, that “Later in 2010 the Task Group is planning to produce a position paper on new build wastes; this will be an input to the planned CoRWM Status Report to Government in October 2010.”

As the Committee will be aware, many groups are currently addressing the substantial and complex consultations on the Justification of new reactors, as well as the Nuclear National Policy Statement and related NPSs. The deadline for these consultations is 22nd February (although for evidence to the Commons Committee on the suite of six energy-related NPSs, the deadline is 15th January).

As a significant amount of information has already been put to CoRWM 1 and the Government (through earlier consultations) on the issues concerning new build wastes it should not be necessary to reproduce it all again. Each signatory group is willing to provide CoRWM with copies of all earlier submissions and comments on past consultations if it would help in its work. We also expect the Committee to consider the responses from industry and local authorities to previous consultations e.g. on the Funded Decommissioning Programme (2008). Additional information, in responses to the current consultations, will be made available for the Committee to consider in its deliberations on new build waste.

Due to time pressures, and the need to avoid overlap of work, this letter considers the question of CoRWM's future work only in a broad sense and asks it to revisit key concerns raised by CoRWM 1. With regard to this we note comments made by you, reported in early 2008: *"The recommendations of CoRWM were accepted for legacy waste and active nuclear facilities, but the Committee*

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<http://www.corwm.org.uk/Pages/Current%20Publications/2665TG5%20Draft5%20TG5%20Workplan%202009-10.pdf>

*recommendation was for this waste only. For waste from new nuclear builds, a new safety case and a new evaluation has to take place."*²

We welcome these comments as they appear to build on the work of CoRWM 1. In particular we ask you to note the reiteration of CoRWM 1 of its position on new build wastes where it stated:

*CoRWM takes no position on the desirability or otherwise of nuclear new build. We believe that future decisions on new build should be subject to their own assessment process, including consideration of waste. The public assessment process that should apply to any future new build proposals should build on the CoRWM process, and will need to consider a range of issues including the social, political and ethical issues of a deliberate decision to create new nuclear wastes (our emphasis).*³

CoRWM's 2007 paper drew on earlier discussion by CoRWM of the judgment by Justice Sullivan on the 2006 Energy Review. That judgment was highly critical of how the Government had handled information from CoRWM 1 in the review.⁴

It is clear from the first CoRWM that social, political and ethical issues must also be considered alongside technical matters. It is of concern therefore that the scope of the work of Task Group 5 of CoRWM 2 appears to suggest that only technical matters will be considered under its work plan. This is not acceptable and risks losing confidence in the work of CoRWM 2.

We fully understand that the technical aspects of managing new build waste are important and we welcome CoRWM examining these issues. Concerns rightly arise around the potential health, environmental and security impacts of new build waste. However, TG 5's work does not explicitly state it will cover the ethics or wider social implications of HAW arising from new build. The choice to create new waste, with no firm solution to legacy wastes, is a question the Task Group must explore. Given this has been written about extensively by CoRWM 1 we will not seek to cover all the same ground again.

It is imperative that the work of CoRWM 2 on new build wastes needs to recognise and preserve the views expressed by CoRWM 1. The issues it raised need to be worked through by CoRWM 2 in the future, otherwise its work risks being wholly undermined if the Government introduces new build waste into the equation without full public scrutiny.

We look to a commitment from the Committee as a whole and the Task Group to consider this issue and also to reflect these considerations in its responses to Government consultations and in its report to Government next autumn.

As noted above, the Task Group's consideration of the '*interaction between the long-term management of new build HAW and that of existing and committed HAW*' should not be solely of a technical nature. Below are a simply a few of the questions which we feel the Committee must consider:

- It has to question whether it is ethically acceptable, for current and future generations, to create more hazardous wastes when there is not even a proven 'solution' to dealing with

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http://www.nce.co.uk/news/2008/01/government_must_move_on_geological_nuclear_storage_says_corwm_chair.html Government must move on geological nuclear storage, says CoRWM chair
Published: 15 January 2008 18:11 Author: Ed Owen

3 *Gordon MacKerron September 2007 Document no. 2162.2* Re-iteration of CoRWM's Position on Nuclear New Build

4 [Andrew Blowers](#), March 2007 Judicial Review of the Consultation on the Energy Review
Document number: 2162 Some Comments on CoRWM's Position on New Build (draft). For the judgment see: <http://www.greenpeace.org.uk/media/press-releases/government-nuclear-consultation-submission-deadline-2007100>

- legacy wastes.
- It must thoroughly examine the claims by the NDA (based on industry information) that new build waste can be disposed of.
 - It must cover the impact of any decisions made in the short term by government on new build and the impact on any host community for a deep geological facility. For example, CoRWM must examine whether Justification of new practices also includes Justification of waste disposal.
 - It is duty bound to ask what impact decisions made in the short term may have on the 'voluntarism' of any community - and it must address the fact that the draft Nuclear National Policy Statement assumes that *all* legacy and *all* new build waste will be co-disposed.
 - It must address claims that 'disposability' of new build spent fuel will happen (as claimed in NDA and other documents).
 - In addition, it should seek detailed information on the potential size of the new build inventory given that there is no firm indication of the scale of a new build programme.
 - The Committee must also consider the technical and social and financial implications for communities chosen for new reactors and the possibility of 160 years of spent fuel storage on site. If alternatives to on-site storage are seriously being considered by reactor vendors and operators these too must be being examined e.g. a central store for spent fuel.
 - It must challenge the Government to provide detailed plans *now* of how, and where, encapsulation of spent fuel will take place prior to disposal e.g. either at reactor sites or at a central location (possibly at a repository head).

We ask the Committee and Task Group to reflect on this letter and would welcome a reply giving the Committee's opinion on the views expressed.

Yours sincerely,

Varrie Blowers, Blackwell Against New Nuclear Group
Val Mainwood, Bradwell for Renewable Energy
Peter Rowberry, Communities Against Nuclear Expansion
Ben Ayliffe, Senior Campaigner, Energy and Climate Change, Greenpeace
Dr Paul Dorfman, Nuclear Consultation Group
Baillie George Regan, Chair, Nuclear Free Local Authorities
Barrie Botley, Kent Against a Radioactive Environment
Hugh Richards, Welsh Anti-Nuclear Alliance
Dr Ruth Balogh, West Cumbria and North Lakes Friends of the Earth

C.C. Dr Marion Hill, Convener, Task Group 5